Anthropologists discover remains of earliest giant panda

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Although it may sound like an oxymoron, a University of Iowa anthropologist and his colleagues report the first discovery of a skull from a "pygmy-sized" giant panda -- the earliest-known ancestor of the giant panda -- that lived in south China some two million years ago.

The ancestor of today's giant panda really was a pygmy giant panda, says Russell Ciochon, UI professor of anthropology. Ciochon (pronounced schuh-HON) is a co-author of an article published in the June 18-22 online edition of the journal *Proceedings of the National Academy of Sciences*. Previous discoveries of teeth and other remains made between 1985 and 2002 had failed to establish the animal's size.

Ciochon says that the ancient panda (formally known as Ailuropoda microta, or "pygmy giant panda") was probably about three feet in length, compared to the modern giant panda, which averages in excess of five feet in length. Also, like it's modern counterpart, it lived on bamboo shoots, as indicated by wear patterns recorded on teeth and specialized muscle markings, indicating heavy chewing, on the skull.

The new find, made about 18 months ago in a south China karst (limestone) cave by Chinese researchers and co-authors Changzhu Jin and Jinyi Liu of the Chinese Academy of Sciences, shows that the basic anatomy of the giant panda has remained largely unchanged for millions of years.

Ciochon says that the skull --, about one-half the size of a modern-day

giant panda skull, but anatomically very similar -- indicates that the giant panda has evolved for more than three million years as a separate lineage apart from other bears and was adapted to eating bamboo very early in its development.

“Pandas are very unique bears -– the only bear species that is known to exist wholly on a vegetarian diet,” says Ciochon. “The evolution of this unique dietary specialization probably took millions of years to refine. Our new discovery shows the great time depth of this unique bamboo-eating specialization in pandas. Thus, pandas have been ‘uniquely pandas’ for many millions of years says Ciochon.”

Ciochon says that the find further helps establish conditions that existed in the region during the varying climatic conditions of the Pliocene and Pleistocene epochs, stretching back some three millions years before the present. The pygmy giant panda lived in lowland tropical bamboo forests. It is often found associated with the extinct elephant-like creature, Stegodon, and the giant extinct ape, Gigantopithecus. Today's giant panda is isolated in mountainous upland bamboo forests, partly due to the pressure of modern civilization.

Ciochon, anthropology professor and department chair in the University of Iowa College of Liberal Arts and Sciences, says that he plans to return to China this November to explore new cave sites in collaboration with Chinese colleagues. A Fellow of the American Association for the Advancement of Science, Ciochon is internationally recognized for his contributions to the fields of primate paleontology and paleoanthropology in Asia concerning "anthropoid origins" and Homo erectus evolution and dispersal.

Source: University of Iowa